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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,173	08/30/2001	Tsutomu Yamazaki	011350-284	6797

7590 09/17/2008

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EXAMINER	
LAROSE, COLIN M	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
09/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/942,173	YAMAZAKI, TSUTOMU	
	Examiner	Art Unit	
	COLIN M. LAROSE	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9-19,22-32 and 35-40* is/are rejected.

7)☒ Claim(s) *7,8,20,21,33 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 August 2008 has been entered.

Response to Arguments and Amendments

2. Applicant has amended independent claims 1, 14, 24, and 27. The changes to these claims, however, are insufficient to overcome the previous rejections.

By way of amendment, the claims now recite "grouping all the colors in the first image data, which are not the same colors, into groups." This change merely specifies that the first image data, i.e., the foreground, is composed of different colors. In other words, all the colors in the foreground "are not the same colors." Bates teaches such a limitation insofar as the foreground text in his images is not limited to a single color and can be composed of any combination of different colors.

By way of amendment, the claims now recite "grouping all the colors … into groups, each of which is for grouping approximately equal colors." As explained in previous Office actions, Bates forms groups ("text objects"), which are composed of regions of foreground text having the same or approximately the same colors. A text object can correspond to foreground text all having the same color, such as 241 ("*UNUSUAL*") and 250 ("CLICK HERE") in figure 2.

Alternatively, a text object can be composed of numerous different colors, which are then grouped into categories according to color (see figure 5); in this instance, the text object is processed by grouping together approximately equal colors appearing within the text object and then utilizing the top "n" colors as a basis for adjusting the background and/or text so that the text within the object is readable against the background. Therefore, in both scenarios—when the text object is either a single color or multi-colored—Bates groups together the like colors appearing within the text object.

By way of amendment, the claims now recite "grouping all the colors … into groups, each of which is for ... comparing the approximately equal colors of each group to all the colors of the second image data." This limitation can be found at column 4/21-33, column 5/44-49, column 11/32-40, and step 325 of figure 3. The color (or the top "n" colors) of each foreground text object is compared to the color(s) of the corresponding background by accessing pre-stored user preferences, such as shown in figure 7. Based on the comparison, a preferred color combination can be selected (335, figure 4) so that the foreground text is easier to read against its corresponding background images or graphics.

Applicant asserts that "Bates does not teach or suggest the combination of claim 1" because "none of the single text objects chosen in Step 311 of Bates has multiple colors" (Remarks, p. 16). Applicant states that "Examiner recognizes in paragraph 2 of the Office Action that each text object is a single color" (Remarks, p. 16).

First, Bates does teach that the text objects can have multiple colors. At step 320, Bates determines the color(s) of a text object according to the method of figure 5 (see column 20/26-29)—i.e., identifying the color of a text object involves determining whether the object has

multiple colors (530, figure 5) and if so, grouping like colors into categories (560, 570). In addition, Applicant recognizes that a text object can "encompass groups of text" (Remarks, p. 16). Since Bates' groups of text can each have any color, logic holds that a group of groups of text can have multiple colors, corresponding to the color of each of the sub-groups.

The assertion of Bates' text objects each being a single color in paragraph 2 of the 3/27/08 Office action corresponded to the example shown in figure 2 of Bates. This assertion, however, does not foreclose the notion that Bates envisions text objects having multiple colors in other scenarios or circumstances. Since Bates teaches that text objects can be composed of multiple groups of text, it seems that the method for categorizing multiple colors according to figure 5 would be applicable to foreground groups of text rather than only background areas. In fact, Bates does expressly state that figure 5 applies to step 320 of figure 3 at column 20/26-29. Were Bates' text objects limited to only a single color, only step 520 of figure 5 would be necessary instead of the entire method 500. Therefore, it is reasonable to conclude that each of Bates' text objects can be multi-colored.

Second, the claims do not appear to *require* that each of the groups of the foreground data be multi-colored. At best, the claims now specify that the colors within the foreground "are not the same." They do not specify that each group must be composed of multiple colors as Applicant asserts.

3. Applicant also requested clarification of the combination for claim 5. Additional reasoning is given below.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 9, 11, 14-16, 22-29, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,809,741 by Bates et al. ("Bates").

Regarding claims 1, 14, 24, and 27, Bates discloses an image processing device/method/program comprising:

a first color detection means for detecting colors of a first image data ("foreground text") by each processing unit (computer 100 detects the colors of the pixels ("processing units") for each foreground text object – see step 320, figure 3);

a second color detection means for detecting colors of a second image data ("background object") that serves as the first image data's background by each processing unit, the second image data having a plurality of different colors (computer 100 detects the colors of the pixels for the background object—see step 307, figure 3; see also figure 5); and

means (computer 100) for:

grouping all the colors in the first image data, which are not the same colors (i.e., the foreground is not monochromatic), into groups ("foreground text objects"), each of which is for grouping approximately equal colors (i.e., each foreground text object is a group of pixels having substantially the same color—accordingly, the foreground text objects represent

grouping of text according to color) and comparing the approximately equal colors of each group to all the colors of the second image data (column 4/21-33; column 5/44-49; column 11/32-40; also figure 3, step 325: the color of each of the foreground text objects and the color(s) of the corresponding background objects are compared by accessing pre-stored user preferences, such as shown in figure 7), and

specifying a uniform adjusting color that makes the first image data recognizable against all colors of the second image data that serve as the first image data's background (i.e., when the color of a foreground text object and the color(s) of the corresponding background object exhibit a contrast problem (step 330), new colors for the text and/or background ("uniform adjusting color(s)") are generated at step 335 – see also figure 7; see also column 21, lines 36-62 where "all" the colors of the second image data are utilized regardless of the number thereof).

Regarding claims 2, 15, 25, and 28, Bates discloses an image processing device/method/program as claimed in claims 1, 14, and 24, further comprising: an image synthesizing means for synthesizing the first image data converted into said adjusting color with said second image data (i.e. computer 100 synthesizes the text image data that has been converted to a new color with the background image data).

Regarding claims 3, 16, 26, and 29, Bates discloses an image processing device/method/program as claimed in claims 1, 14, and 24, wherein said processing unit is a pixel (i.e. the image data may be in a GIF or JPEG format and therefore, consists of pixels – see e.g. column 12, lines 2-6).

Regarding claims 9, 22, and 35, Bates discloses an image processing device/program as claimed in claims 1 and 14, wherein said first image data is an image data that represents character images (i.e. first image data is foreground text).

Regarding claims 11 and 23, Bates discloses preparing an electronic file based on the image data synthesized by the image synthesizing means (e.g. a new HTML file is created with the new color combinations – see column 16, lines 18-22).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4, 6, 10, 17, 19, 30, 32, and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of Translation of Japanese Patent 09-025285A by Honda ("Honda").

Regarding claims 4, 17, and 30, Bates discloses an image processing device/program as claimed in claims 1 and 14, further comprising:

a first memory means (120) for storing the colors of the first image data by each of the approximately equal colors (i.e. the values of the detected colors are necessarily stored somewhere in memory); and

a second memory means (120) for storing the colors of the second image data that serves as the first image data's background, said colors of which are correlated to each of the

corresponding colors of the first image data that are stored in said first memory means (i.e. the values of the detected colors are necessarily stored somewhere in memory, and those colors of the background object are correlated, or correspond, to the text colors that are overlaid thereon);

Bates teaches that one way of determining the background or foreground colors is through an histogram accumulation method, such as shown in figure 5. However, Bates is silent to calculating average values of the background image data (i.e. the second image data), and using the average background color and the text color to determine the uniform adjusting color, as claimed.

Honda discloses an image processing system that makes text more legible by altering the colors of the text so that it exhibits higher contrast as compared with the background on which the text is overlaid. In particular, Honda discloses basing the determination of the new text color on the average of the background colors (page 5 of Honda: "overlay pixel value determination circuit … computes the average pixel value (density value) of a certain region [of the background image]"). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates by Honda to calculate the average value of the background colors per Honda's teachings and determine the uniform adjusting color based on the colors of the first image data (i.e. the text object) and the average of the second image data (i.e. background colors), since Bates teaches that the manner of detecting the colors of objects is well-known in the art (column 12, lines 10-13), and Honda discloses that one technique for determining a background color is to compute the average of color values in the background. Bates' uniform adjusting color would then be based on the detected text object colors and the average color values of the background.

Regarding claims 10 and 36, Bates discloses an image processing device as claimed in claim 1, further comprising: a third memory means for storing said second image data (i.e. memory 120).

Regarding claims 6, 19, and 32, Honda discloses an image processing device/program as claimed in claims 4 and 17, wherein said average color value calculating means calculates the average value of the coordinate values of the colors of the second image data in a specified color system (page 5 of Honda: "overlay pixel value determination circuit … computes the average pixel value (density value) of a certain region [of the background image]" – this computation is done in the RGB color system).

Regarding claims 37-40, Bates appears to be silent to comparing the first image data groups ("text objects") to a value representing a combination of all of the colors of the second image data ("background objects"), as claimed.

Honda discloses an image processing system that makes text more legible by altering the colors of the text so that it exhibits higher contrast as compared with the background on which the text is overlaid. In particular, Honda discloses basing the determination of the new text color on the average of the background colors (page 5 of Honda: "overlay pixel value determination circuit … computes the average pixel value (density value) of a certain region [of the background image]"). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates by Honda to calculate a value representing a combination of all of the colors of the second image data (i.e., the average value of the background colors) per Honda's teachings and determine the uniform adjusting color based on the colors of the first image data (i.e. the text object) and the average of the second image data (i.e. background

colors), since Bates teaches that the manner of detecting the colors of objects is well-known in the art (column 12, lines 10-13), and Honda discloses that one technique for determining a background color is to compute the average of color values in the background. Bates' uniform adjusting color would then be based on the detected text object colors and the average color values of the background.

8. Claims 5, 18, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of Translation of Japanese Patent 09-025285A by Honda ("Honda"), and further in view of U.S. Patent 5,930,385 by Fujimoto et al. ("Fujimoto").

Regarding claims 5, 18, and 31, Bates and Honda is silent to a judging means for judging that colors of the first image data are approximately equal when a sum of squares of the differences of their coordinate values in a specified color system is less than a specified value. Bates, for instance, equates two colors when the colors are within a certain range (see delta values, figure 7)

Fujimoto discloses an image processing system adapted to perform a color conversion on an input image, such as converting a color image to a monochrome image. Figure 2 shows a method for such conversion. Figure 3 shows the process of region dividing, which is included in the method of figure 2. In dividing the image into color regions, it is determined whether adjacent pixels have the same color at step 2-3. As figure 8(a) shows, determining whether two colors are the same involves determining whether the sum of squares of a difference in color values is less than a threshold.

It would have been obvious to modify Bates and Honda by Fujimoto to include means to judge the similarity of input character colors by comparing the sum of squares of the differences of their coordinate values to a specified value, as claimed, since Bates' methodology includes categorizing like colors together as shown in figure 5 and Fujimoto teaches that a conventional method for determining whether two colors are equal or approximately equal involves comparing the sum of squares of the differences of their coordinate values to a threshold. That is, Bates groups similar colors together as shown in figure 5, and Fujimoto provides the details of *how* to determine whether two colors are in fact similar.

9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of U.S. Patent 5,872,573 by Adegeest.

Regarding claim 12, Bates does not expressly disclose obtaining the first and second image data via a scanner, as claimed.

Adegeest discloses a system for producing legible text to be overlaid on a background, similar to that of Bates. In particular, Adegeest discloses that it is conventional to obtain input images via a scanner for the purposes of adjusting text and background so that the text is more legible against the background. It would have been obvious to modify Honda by Adegeest to input the second image via a scanner, as claimed, since Adegeest shows that it was conventional to input images by electronically scanning documents with a scanner.

Regarding claim 13, Bates is silent to a printer unit for printing images on recording media based on the synthesized image data.

Adegeest discloses a system for producing legible text to be overlaid on a background, similar to that of Bates. In particular, Adegeest discloses that it is conventional to output processed images via a printer 23, figure 1. It would have been obvious to modify Honda by Adegeest to output the synthesized image via a scanner, as claimed, since Adegeest shows that it was conventional to output images using a printer.

Allowable Subject Matter

10. Claims 7, 8, 20, 21, 33, and 34 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (571) 272-7423. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner, can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000. Any inquiry of a general nature or relating to the status of this application or proceeding can also be directed to the TC 2600 Customer Service Office whose telephone number is (571) 272-2600.

/Colin M. LaRose/
Primary Examiner
Group Art Unit 2624
12 September 2008